Statewide Transportation Planning Framework Central Arizona Regional Framework Study

Working Paper # 2
Existing and Future Conditions

Prepared For:



Prepared By:



Kimley-Horn and Associates, Inc.

June 9, 2008



Table of Contents

2.1	INTRODUCTION	1
2.2	ENVIRONMENTAL CONTEXT	5
	2.2.1 Geology and Topography	5
	2.2.2 Hydrological Resources and Issues	9
	2.2.3 Natural Infrastructure	.14
	2.2.4 Cultural Resources	. 37
	2.2.5 Air Quality	. 41
	2.2.6 Hazardous Materials	. 44
	2.2.7 Environmental References	. 47
2.3	LAND USE	50
	2.3.1 Existing Land Use	. 50
	2.3.2 Future Land Use	.53
	2.3.3 Generalized Land Ownership	.57
	2.3.4 Public Land Management Studies	.61
	2.3.5 Large Planned and Proposed Development Projects	. 64
2.4	EXISTING ROADWAY SYSTEM	73
	2.4.1 State Highway System	.73
	2.4.2 Other Principal Arterial Roadways	.76
	2.4.3 Study Area Roadway Functional Classification Systems	.78
	2.4.4 Existing Traffic Volumes and Percent Trucks	.78
	2.4.5 Existing and Proposed Major Bridges and Structures	
	2.4.6 Railroad Grade Crossings	.83
2.5	EXISTING PUBLIC TRANSPORTATION	85
	2.5.1 Local and Regional Transit Systems	.85
	2.5.2 Special Needs Transportation Services	. 85
	2.5.3 Intercity Bus Transportation	.86
2.6	AVIATION FACILITIES	94
	2.6.1 Primary Airports	. 94
	2.6.2 Secondary Airports	. 95
	2.6.3 Heliports	. 95
2.7	RAIL FREIGHT INFRASTRUCTURE AND SERVICES	98
2.8	BICYCLE AND PEDESTRIAN TRANSPORTATION SYSTEMS	99
2.9	PROGRAMMED (FUNDED) SHORT-TERM TRANSPORTATION IMPROVEMENTS	OC
2.10	O PLANNED (UNFUNDED) SHORT- AND LONG-RANGE IMPROVEMENTS 1	04



2.10.1 Highways	104
2.10.2 Public Transit	105
2.10.3 Rail	105
2.10.4 Pedestrian/Bicycle	105
2.11 SUMMARY OF RELATED STUDIES AND REPORTS	110
2.11.1 Completed Studies	110
2.11.2 Studies Currently Underway	127
2.11.3 Funded Future Studies	132
APPENDIX A - SELECTED ROADWAY CHARACTERISTICS AS CONTAINED IN 2006 HPM	S
DATA	133



List of Figures

Figure 2-1 Study Area Location	3
Figure 2-2 Municipal Planning Areas	4
Figure 2-3 Slope Analysis	7
Figure 2-4 Natural Infrastructure	
Figure 2-5 Cultural Resources	38
Figure 2-6 Air Quality Non-Attainment Area Boundaries	46
Figure 2-7 Future Urban Growth Character	56
Figure 2-8 Land Ownership and Protected Environmental Areas	60
Figure 2-9 Public Land Management Studies	63
Figure 2-10 Existing Roadway Network	74
Figure 2-11 Existing Transportation Network	93
Figure 2-12 Aviation Facilities	97
List of Tables	
Table 2.1 Topographic Features	6
Table 2.2 Biotic Communities	
Table 2.3 Biotic Communities Common Wildlife	17
Table 2.4 Listed Special Status Species - Known or Potentially Occurring	21
Table 2.5 Air Quality Non-Attainment and Maintenance Areas	42
Table 2.6 Land Distribution in the Study Area	58
Table 2.7 Major Master-Planned Communities and Other Planned Developments	64
Table 2.8 Major Employment and Mixed-Use Activity Centers	70
Table 2.9 Study Area State Highways	73
Table 2.10 Existing Interchanges on I-10	73
Table 2.11 Other Principal Arterial Roadways	77
Table 2.12 Study Area Roadway Functional Classifications	
Table 2.13 Study Area ADT & Percent Trucks	78
Table 2.14 Existing Major Bridges	81
Table 2.15 Proposed Bridge Improvements	83
Table 2.16 Railroad Grade Crossings	83
Table 2.17 Intercity Transit Services	
Table 2.18 Local and Regional General and Special Needs Transit Services	87
Table 2.19 Programmed Short-Term Roadway Improvements	
Table 2.20 Planned Short- and Long-Range Improvements	105



Abbreviations

AAC Arizona Administrative Code

AADT Annual Average Daily Traffic

ACP Areas of Conservation Priority

ADEQ Arizona Department of Environmental Quality

ADOT Arizona Department of Transportation

ADT Average Daily Traffic

ADWR Arizona Department of Water Resources

AGFD Arizona Game and Fish Department

ALRIS Arizona Land Resource and Information System

ARHP Arizona Register of Historic Places

ARS Arizona Revised Statutes

ASLD Arizona State Land Department

AZSITE Data sharing consortium consisting Arizona State

Parks, Arizona State Museum, School of Human Evolution and Social Change at Arizona State

University, and the Museum of Northern Arizona.

BIA Bureau of Indian Affairs

BLM Bureau of Land Management

BRT Bus Rapid Transit

CAA Clean Air Act

CAAG Central Arizona Association of Governments

CAP Central Arizona Project

CERCLA Comprehensive Environmental Response

Compensation, and Liability Act

CFPO Cactus Ferruginous Pygmy Owl

CFR Code of Federal Regulations

CIP Capital Improvement Plan

CO Carbon Monoxide

DCR Design Concept Report

DOT Department of Transportation

DU Dwelling Unit



EA Environmental Assessment

EIS Environmental Impact Statement

EPA Environmental Protection Agency
FAA Federal Aviation Administration

FHWA Federal Highway Administration

FY Fiscal Year

GIS Geographic Information Systems

HPMS Highway Performance Monitoring System

HURF Highway User Revenue Fund

I Interstate

ISA Initial Site Assessment

ITS Intelligent Transportation Systems

L/DCR Location/Design Concept Report

LOS Level of Service

MAG Maricopa Association of Governments

MP Milepost

MPA Municipal Planning Area

MPO Metropolitan Planning Organization

MSL Mean Sea Level

NCRS Natural Resources Conservation Service
NAAQS National Ambient Air Quality Standards

NEPA National Environmental Policy Act

NHRP National Register of Historic Places

NO₂ Nitrogen Dioxide

NRHP National Register of Historic Places

 O_3 Ozone

PAD Planned Area Development

PAG Pima Association of Governments

PM Particulate Matter

RMP Resource Management Plan



RSRF Regional / Subregional Road Funds

RTP Regional Transportation Plan

R/W Right-of-Way

SAFETEA-LU Safe, Accountable, Flexible, Efficient Transportation

Equity Act: A Legacy for Users

SDNM Sonoran Desert National Monument

SIP State Implementation Plan

SATS Small Area Transportation Study

SR State Route

SRP Salt River Project

STP Surface Transportation Program

TB Town Boundary

TI Traffic Interchange

TIP Transportation Improvement Program

TMDL Total Maximum Daily Load

UPRR Union Pacific Railroad

US or U.S. United States

USBR United States Bureau of Reclamation

USC United States Code

USFS United States Forest Service

USFWS United States Fish and Wildlife Service

USGS United States Geologic Survey

UZA Urbanized Area

VPD Vehicles per Day

WQARF Water Quality Assurance Revolving Fund



2.1 INTRODUCTION

Regional transportation planning entities across Arizona, working closely with local jurisdictions and stakeholders, have partnered with the Arizona Department of Transportation (ADOT) to develop a series of Regional Framework Studies that will ultimately provide input into a Statewide Transportation Planning Framework.

Four Regional Framework Studies will identify ways to plan for growth by strengthening the link between land use, community development, and economic patterns; multimodal transportation for future sustainable mobility; and continuing enhancement of Arizona's quality of life. The four Regional Framework Studies are:

- Western Arizona Regional Framework Study
- Northern Arizona Regional Framework Study
- Eastern Arizona Regional Framework Study
- Central Arizona Regional Framework Study

The study area for each of the Regional Framework Studies is depicted in Figure 2-1. The study area for the Central Arizona Regional Framework Study includes portions of Pima, Pinal, and Gila County.

Figure 2-1 also identifies two framework studies that have been or are currently being developed by the Maricopa Association of Governments (MAG). These are 1) the I-8/I-10 Hidden Valley Transportation Framework Study, and 2) the (recently completed) I-10/Hassayampa Valley Roadway Framework Study. The project team will also coordinate with MAG and the Pima Association of Governments (PAG) in Maricopa and Pinal counties as they update their established regional transportation plans (RTP) and related studies for integration into the Statewide Transportation Planning Framework.

Each Regional Framework Study will assess transportation needs within its study area and recommend transportation options for the years 2030 and 2050. The Framework Studies will seek to answer four fundamental questions:

- How can transportation investments encourage quality economic growth?
- How can we improve the relationship between land use and transportation to achieve responsible urban growth patterns while following the principles of smart growth and sustainability?
- How can we improve links between population centers to strengthen the base for economic growth?
- How can transportation decisions enhance our quality of life and improve our natural environment in a way that is fair and equitable for Arizonans?

To the extent possible, the Regional Framework Studies and the Statewide Transportation Planning Framework will comply with requirements for statewide long-range planning as defined by Arizona Revised Statutes (ARS) and the federal Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) legislation.

Municipal planning areas (MPAs) for cities and towns within the Central Arizona Regional Framework Study area are depicted in Figure 2-2. The following cities and towns lie within the study area:



- City of Apache Junction
- City of Coolidge
- City of Eloy
- Town of Florence (seat of Pinal County)
- City of Globe (seat of Gila County)
- Town of Hayden
- Town of Kearny
- Town of Mammoth
- Town of Miami
- City of Superior
- Town of Winkelman

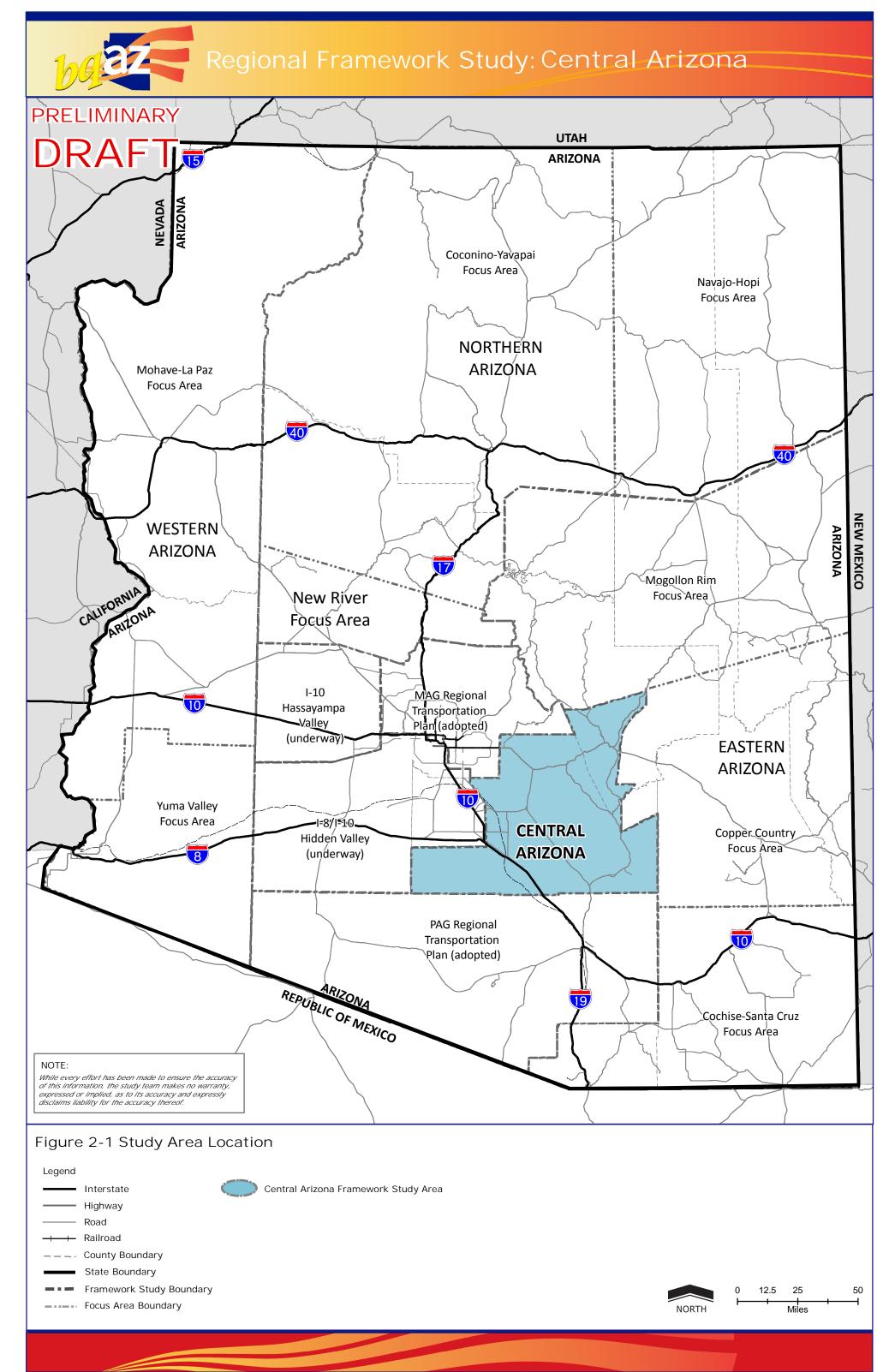
In addition, portions of the planning areas of the following cities and towns are included in the study area:

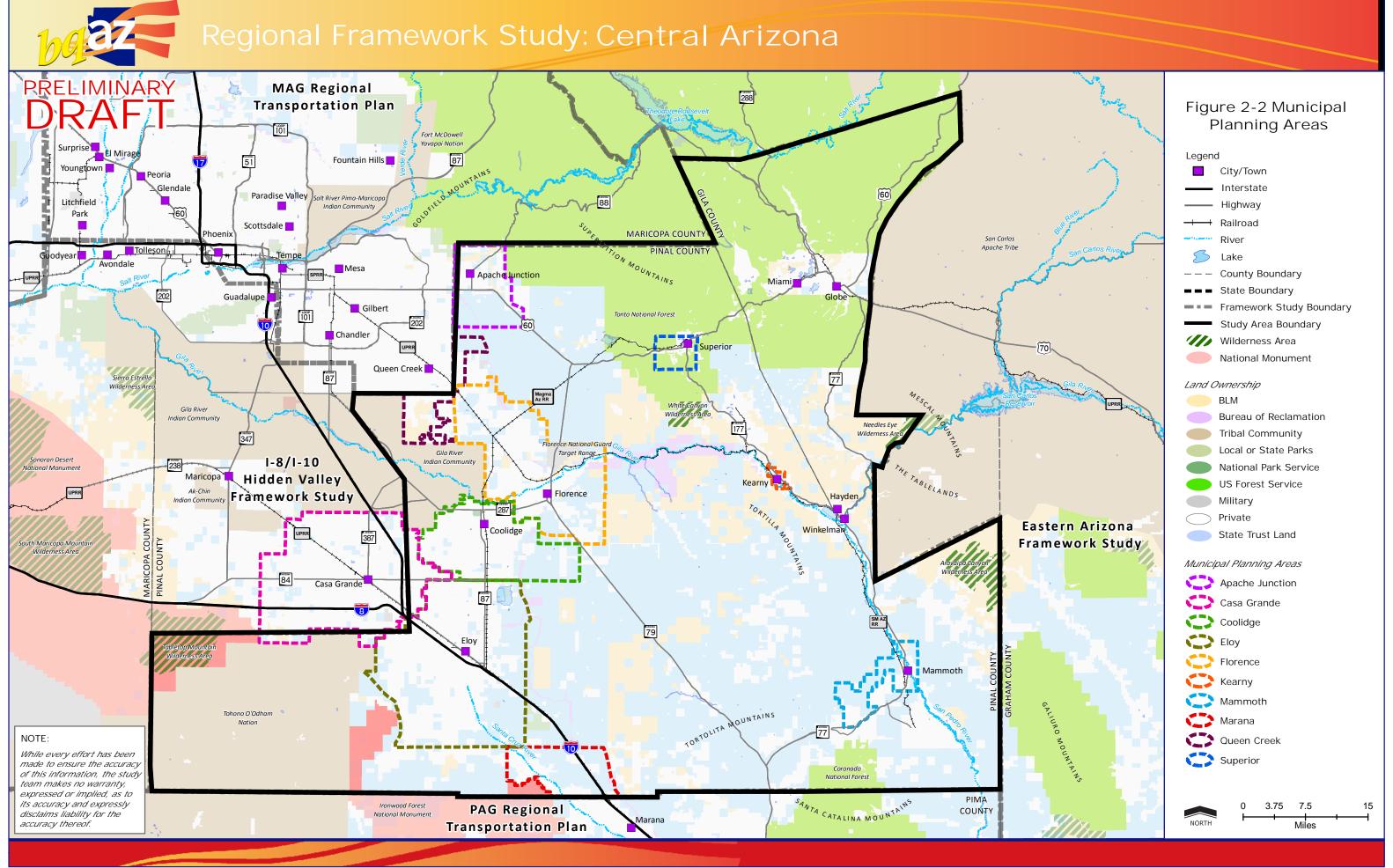
- Town of Marana
- City of Casa Grande
- Town of Queen Creek

The majority of land in the study area in western Pinal County is included within a local jurisdiction MPA, including the communities of Eloy, Coolidge, Florence, Queen Creek and Apache Junction.

In contrast, the vast majority of land in the eastern portion of the study area, which includes Superior, Miami, Globe, Kearny, Hayden, Winkelman and Mammoth, is outside of MPAs.







Sources: ALRIS 2007, ADOT 2007, CAAG 2008